

DevKit Memo

Summary 1 :

本次測試主要是想讓 DevKit 上的溫濕度資料收上 IoT hub，一開始讓 DevKit 連結到 Azure Account 時，因為我設定的 account 他已經被加在一個 directory 裡面，這個 directory 裡有之前 IT booth 所建好的 lothub 了，而很剛好的是這個 lothub 裡也有定義收溫濕度資料的 format，所以資料可以順利的收上去。

為了不要跟之前的 IT booth 混淆，所以我申請了一個全新的 Azure 環境來進行 DevKit 測試

[作法]

開啟 AzureIoT project 點選 GetStarted

Task - [Run Cloud Provision]

當在 DevKit 上第一次跑 Cloud Provision 會給一個驗證碼，開啟 browser 到 <https://aka.ms/devicelogin> 輸入驗證碼之後，會需要輸入 Azure Account 讓 DevKit 可以連接到 Azure，而之後每一次 upload device ，DevKit 就會自動連上這個 account 。



因為要將我在 DevKit 的設定的 Azure 帳號切換到新的 Azure 帳號才能連到新的環境中，所以這邊必須到 DevKit 資料夾開啟 Powershell 輸入 az login 一樣開啟 browser 到 <https://aka.ms/devicelogin> 輸入驗證碼就可以切換了

✓ 文件上沒有提到的部分:

如果同一個帳號同時綁在多個 Directory 下要怎麼確認是哪一個呢?

可以到訂用帳戶確認 More Services>>Subscription>>SubscriptionID

SUBSCRIPTION	SUBSCRIPTION ID	MY ROLE	CURRENT COST
Free Trial	c4a97d67-a21d-4e68-a92e-9ca0c68963cd	Owner	nt\$0.00

```

Windows PowerShell
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PS C:\Users\v-altsai\Documents\devkit_install_1.1.0> az login
To sign in, use a web browser to open the page https://aka.ms/devicelogin and enter the code GD4988R92 to authenticate.

[{"cloudName": "AzureCloud", "id": "a2db8dd1-f4da-49db-ae40-276fb466c466", "isDefault": true, "name": "Windows Azure MSDN - Visual Studio Ultimate", "state": "Enabled", "tenantId": "6df28dda-4f20-4c27-b214-4da52500762a", "user": {"name": "alice103000004@gmail.com", "type": "user"}}, {"cloudName": "AzureCloud", "id": "c4a97d67-a21d-4e68-a92e-9ca0c68963cd", "isDefault": false, "name": "Free Trial", "state": "Enabled", "tenantId": "bd9bf23c-e086-4fa5-a122-57d7b2c3f0c8", "user": {"name": "alice103000004@gmail.com", "type": "user"}}, {"cloudName": "AzureCloud", "id": "3c5aab6-64bb-4bc3-95c0-a484c73159a5", "isDefault": false, "name": "Microsoft Imagine", "state": "Enabled", "tenantId": "a2db8dd1-f4da-49db-ae40-276fb466c466", "user": {"name": "microsoftimage@msft.com", "type": "user"}}

```

確認之後在 DevKit 執行 **cloud provision** 會需要 Select 要用的 SubscriptionDevK 連結到 Azure account 上，利用上下鍵選取

```

MXChip IoT DevKit - AZ3166

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL 1: Task - cloud-provision ▾ + - ×

> Executing task: node 'C:\Users\v-altsai\azure-board-cli\out\cli.js' provision .bin <
- checking pre-conditions of task: node.js version
V node.js version: v6.11.1
- checking pre-conditions of task: azure cli version
V azure cli version: 2.0.18
- checking pre-conditions of task: subscription
? What subscription would you like to choose?
Select Subscription
Windows Azure MSDN - Visual Studio Ultimate (a2db8dd1-f4da-49db-ae40-276fb466c466) (alice103000004@gmail.com)
> Free Trial (c4a97d67-a21d-4e68-a92e-9ca0c68963cd) (alice103000004@gmail.com)
Microsoft Imagine (3c5aab6-64bb-4bc3-95c0-a484c73159a5) (alice103000004@gmail.com)
-----
```

接著程式會自動 create 一個全新的 Resource Group

Resource group : v-altsai-group-4960

IoT hub name : v-altsai

Connection string:

HostName=v-altsai-iothub-49d0.azure-devices.net;SharedAccessKeyName=iothubowner;SharedAccessKey=ZgV6WfnUSolPnYwBQZSdMEvIxR3CWtZnmZE3K3jTEPQ=

```

? What subscription would you like to choose? Free Trial (c4a97d67-a21d-4e68-a92e-9ca0c68963cd) (alice103000004@gmail.com)
V subscription: c4a97d67-a21d-4e68-a92e-9ca0c68963cd
- checking pre-conditions of task: azure cli iothub
? Resource Group Name: v-altsai
Creating resource group [v-altsai-group-49d0] ...
Create resource group [v-altsai-group-49d0] Succeeded.
? IoT Hub Name: v-altsai
V azure cli iothub: {"iotHubName": "v-altsai-iothub-49d0", "subscription": "c4a97d67-a21d-4e68-a92e-9ca0c68963cd", "resourceGroup": "v-altsai-group-49d0"}
- checking pre-conditions of task: ARM template deployment
V ARM template deployment: Done
- checking pre-conditions of task: azure cli iothub device
V azure cli iothub device: {"deviceConnectionString": "HostName=v-altsai-iothub-49d0.azure-devices.net;DeviceId=AZ3166;SharedAccessKey=1UwBFcJkEgTJ9XisyIlggY2/8g5oCGeTTZQjlB05ZW0=", "deviceId": "AZ3166"}
- checking pre-conditions of task: output
V output: C:\Users\v-altsai\Documents\Arduino\generated_examples\GetStarted_21\.build\runtime.json
```

Terminal will be reused by tasks, press any key to close it.

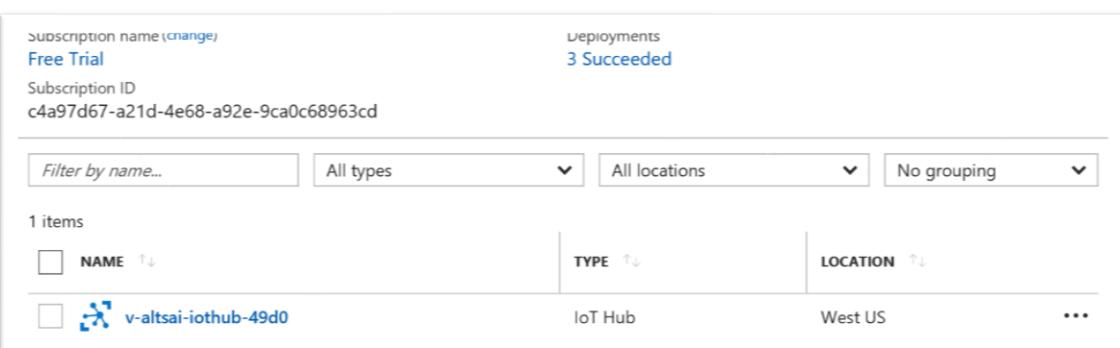
[Check!]

到 Azure 上確認是否真的新建了一個 **resource group** 內涵 **iohub**



The screenshot shows the Azure Resource Groups blade. At the top, it says "資源群組" and "cherryhub@hotmail (Default Directory)". Below that are buttons for "+ 新增", "指導標籤", "資料行", and "重新整理". A message says "訂用帳戶: Free Trial – 看不到任何訂閱嗎? 切換 目錄". There is a search bar and filters for "所有位置" and "未分組". A table lists one item:

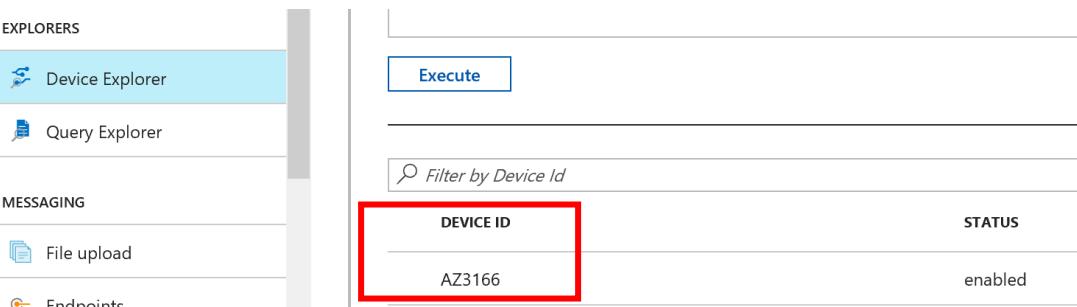
名稱	訂用帳戶	位置	更多
v-altai-group-49d0	Free Trial	美國西部	...



The screenshot shows the Azure IoT Hubs blade. At the top, it says "Subscription name (change)" and "Free Trial". It also shows "Deployments 3 Succeeded". Below that, it says "Subscription ID c4a97d67-a21d-4e68-a92e-9ca0c68963cd". There are filters for "Filter by name...", "All types", "All locations", and "No grouping". A table lists one item:

NAME	TYPE	LOCATION	更多
v-altai-iohub-49d0	IoT Hub	West US	...

也可以到 **Device Explorer** 查看是否有連接到 DevKit 的 Device ID : AZ3166



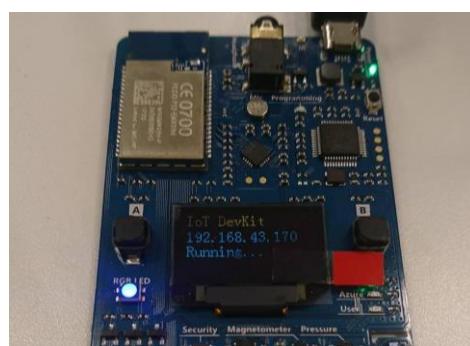
The screenshot shows the Device Explorer blade. On the left, there is a sidebar with "EXPLORERS" containing "Device Explorer" (which is selected and highlighted in blue), "Query Explorer", "MESSAGING" containing "File upload" and "Endpoints", and a "Execute" button. Below that is a table with columns "DEVICE ID" and "STATUS". The row for "AZ3166" has its "DEVICE ID" column highlighted with a red box.

DEVICE ID	STATUS
AZ3166	enabled

如果都有就代表已經成功建立好一個 azure 的環境並可以將 dev kit 資料送上 iohub

接著 run Task[device-upload]

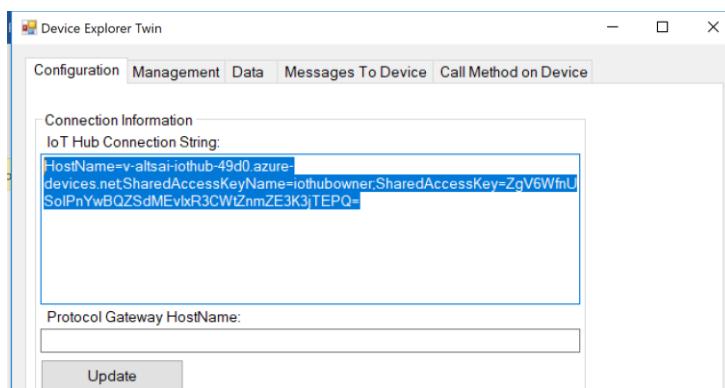
將程式燒到 Dev Kit 中等到他 reboot 之後顯示 running 就開始送資料了



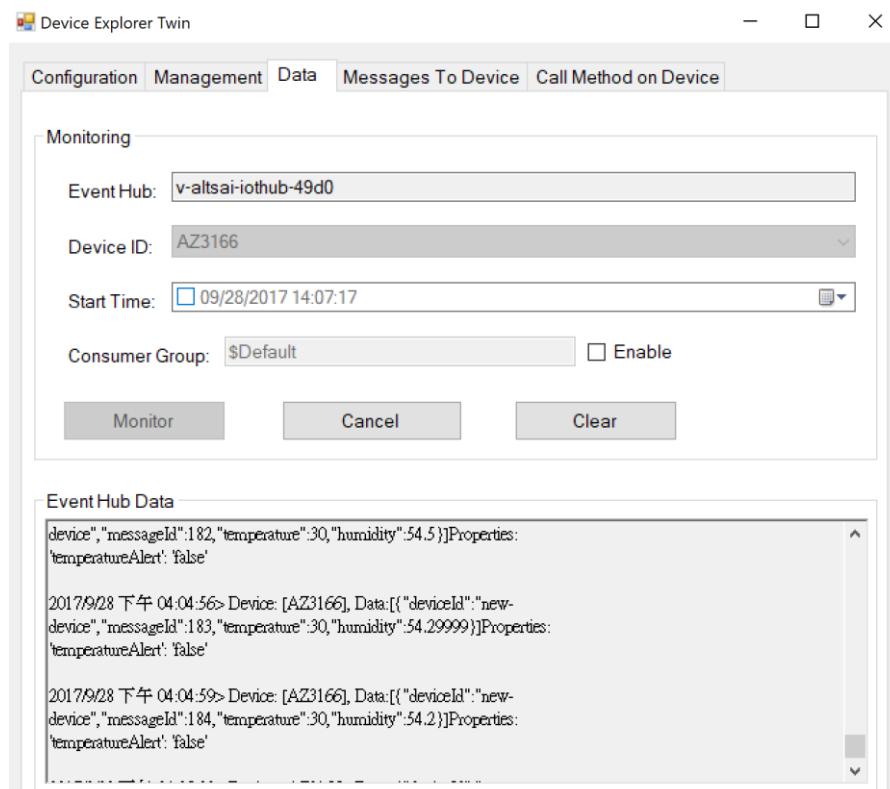
- ✓ 在 Device Explorer Twin desktop app 可以做資料的 monitor

貼上 iothub connection string

HostName=v-altsai-iothub-49d0.azure-devices.net;SharedAccessKeyName=iothubowner;SharedAccessKey=ZgV6WfnUSo1PnYwBQZSdMEvIxR3CWtZnmZE3K3jTEPQ=



可以在 data 點上選 monitor 即時看到資料送出的狀況



✓ **Summary 2. Devkit display screen 無法顯示的問題**

當時安裝的時候跳過了 **Firmware Update** 的步驟所以 DevKit 並沒有升級到 **最新的 1.1.0 版本** 停留在 1.0.2，而之後我在安裝 board package 的時候卻裝了 1.1.0 的版本導致他 firmware 跟 package 版本不一致螢幕顯示不出來

[作法]

透過 **Firmware Update & Update package version** 可以解決此問題

Link: <https://microsoft.github.io/azure-iot-developer-kit/docs/upgrading/>

1. Download the latest firmware: [devkit-firmware-1.1.0.bin](#)
2. Drag & drop the .bin file you downloaded to AZ3166 device.
3. Wait until the file is copied, then the DevKit will reboot to the latest firmware.

Upgrade board package

